

**This Page Is Inserted by IFW Operations
and is not a part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



Docket No. 24180-096013

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Eckstein, et al., U.S. Patent)
Application No. 08/886,881)
For: Improved Structures of Polymers)
Made From Single Site Catalysts)
Filed: July 2, 1997)
Group Art Unit: 1773)
Examiner: D. Tarazano)

Rule 131(b) Declaration of Gregory K. Jones

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Dear Sir:

This declaration is being submitted under 37 CFR §1.131 to show prior invention over U.S. patent No. 5,376,439 to Hodgson et al. The undersigned co-inventor declares the following:

1. I am one of the named co-inventors for U.S. Patent Application No. 08/886,881, which was filed on July 2, 1997 as a continuation of U.S. Patent Application No. 08/653,520, filed May 15, 1995, now abandoned, which is a continuation of U.S. Patent Application No. 08/082,226, filed June 24, 1993, now abandoned.
2. Claims 1, 3, 7, 8, 10-16, 18, 35, 37, 41-49, 51, and 98-106 are pending in U.S. Patent Application No. 08/886,881. Independent claim 1 relates to a film structure comprising at least two layers wherein a first layer comprises a barrier material and further wherein a second layer comprises a polymer formed by the polymerization reaction with a single site catalyst. Further, independent claim 35 relates to a film structure comprising at least two layers wherein a first layer comprises a barrier material and further wherein a second layer comprises a polymer formed by the polymerization reaction with a metallocene catalyst system.

RECEIVED
APR 24 2002
TC 1700

3. The primary reference, U.S. Patent No. 5,376,439 to Hodgson et al. issued on December 27, 1994 from an application filed on March 29, 1994, which was a continuation of U.S. Patent Application No. 945,769, which was filed on September 16, 1992, now abandoned.

4. Film structures as defined in the claims of the present invention had been conceived prior to September 16, 1992, the effective date of Hodgson et al. Specifically, Paragraphs 6-12 and Exhibits A-G as described below show conception of the claimed invention prior to September 16, 1992, the effective date of the reference, coupled with due diligence from prior to the reference date to a subsequent constructive reduction to practice (i.e., the filing date of U.S. Patent Application No. 08/082,226, dated June 24, 1993).

5. The attached copies are true copies of original Experiment and Development Orders and notebook entries. However, the experimental order numbers ("E-numbers") of some of the copies are blacked out because the E-numbers had been highlighted and photocopied. The true E-numbers of the documents are presented in the following paragraphs.

6. Exhibit A, dated August 18, 1992, shows Experiment and Development Order No. E-15476-92 ("Order No. E-15476-92") relating to five layer film structures, each comprising a first layer comprising a barrier material (Saran blend 3649-00) and a second layer comprising a polymer formed by the polymerization reaction with a single site catalyst or a metallocene catalyst system (Exxon SLP-0179 or Exxon SLP-9012). Order No. E-15476-92 was prepared and requested by J. Zheng, a named co-inventor of the subject matter of present invention, on August 18, 1992 and was further approved by Roger L. Kaas on August 19, 1992. As stated, the objective of Order No. E-15476-92 was to use "Exxon VLDPE to replace Dow ULDPE in five layer structure [sic]." The Exxon resins utilized in the above-identified Experiment and Development Order (SLP-0179 and SLP-9012) are polyethylene copolymers made using a single site catalyst or metallocene catalyst system, known by Exxon as Exxon Exxpol technology.

7. Exhibit B, dated August 18, 1992, shows a notebook page titled "Five Layer Shrink Bag Modifications - VLDPE." The stated objectives are: "1) determine the five layer shrink bags' performance using VLDPE replacing ULDPE; 2) eventually cost reduction (down gauging); and 3) improved sealability and toughness." The notebook entry was prepared by and initialed by J. Zheng. Further, the notebook entry indicates that a trial run took place on 9-17-92 and was successful. Further, Exhibit B shows a handwritten copy of Order No. E-15476-92

pasted to the notebook page that eventually became Order No. E-15476-92, as shown in Exhibit A.

8. Exhibit C shows a web page dated October 3, 2000 called "How EXXPOL Metallocene Catalysts Work." The purpose of this web page is to show that the Exxon Exxpol technology shown in Order No. E-15476-92 is, in fact, single-site catalyzed or metallocene catalyzed technology and further to show comparisons of the Exxon Exxpol technology against prior art technologies, such as Ziegler-Natta technology.

9. Exhibit D, dated August 19, 1992, shows Experiment and Development Order No. E-15474-92 ("Order No. E-15474-92") related to EB (electron beam) cross-linking of VLDPE, having the stated objective: "To determine the EB cross-linking of butene and hexene based Exxon VLDPE." The materials used were SLP-0179 and SLP-9012, which are both single site catalyzed polymer materials. Order No. E-15474-92 was prepared by J. Zheng and approved by Roger L. Kaas on September 19, 1992.

10. Exhibit E, dated December 11, 1992, shows Experiment and Development Order No. E-15511-92 ("Order No. E-15511-92"), titled "Exxon Exact Polymer Evaluation - Shrink Bag Application". The objective was "to determine the processibility of the EB cross-linking and the performance properties of Exact polymers in three layer shrink bag application [sic]." Variables 3-4 and 6-7 have the Exxon Exact single-site catalyzed materials in layers of three layer structures, each also having a layer comprising a barrier material (Saran blend). Order No. E-15511-92 was prepared and requested by J. Zheng and approved by Roger L. Kaas on December 11, 1992.

11. Exhibit F, dated February 8, 1993, shows Experiment and Development Order No. E-15408-93 ("Order No. E-15408-93"), titled "Dow CGCT Polymer Evaluation - Shrink Bag Application." The objective was "to determine the processibility, the EB cross-linking and the performance properties of Dow CGCT/Constrained Geometry Catalyst Technology) polymers in three layer shrink bag application [sic]." Variables 3 and 4 of Order No. E-15408-93 are three layer structures having a layer of a barrier material (Saran Blend 3649) and a layer comprising a polymer formed by the polymerization reaction of a single site catalyst (Dow XUR-1567-48562A37 and Dow XUR-1564-48562A23). Order No. E-15408-93 was prepared and requested by J. Zheng on February 8, 1993 and approved by Roger L. Kaas on February 12, 1993. In

addition, Dow CGCT polymers are polyethylene copolymers made by a single site catalyst or metallocene catalyst system.

12. Exhibit G, dated March 2, 1993, shows Experiment and Development Order No. E-15413-93, titled "3-Layer Saran Sealability and Toughness" ("Order No. E-15413-93"). The objective was to "evaluate Dow Insite Polymer and modify the current 80/10/10 formulation to improve the sealability and toughness of 3-layer layer shrink bags." Variables 2-6 show three layer film structures having a layer of barrier material (Saran Blend 3653) and a layer comprising a polymer formed by the polymerization reaction with a single site catalyst (Dow XUR-1567-58462A37). Order No. E-15413-93 was prepared by J. Zheng, requested by K. Lind, a named co-inventor of the subject matter of the present invention, and approved by Roger Kaas on March 2, 1993. Dow Insite polymers are polyethylene copolymers made by a single site catalyst or metallocene catalyst system.

CONCLUSION

13. Exhibits A-G show a conception of the present invention prior to the effective date of U.S. Patent No. 5,376,439 coupled with due diligence from prior to the reference date to a subsequent reduction to practice. Therefore, Exhibits A-G establish prior invention of the claimed subject matter prior to September 16, 1992, the effective priority date of U.S. Patent No. 5,376,439. However, this declaration is not to be construed as an assertion that an earlier date of conception or reduction to practice does not exist.

14. The declarant further declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application of any patent issuing thereon.

Respectfully Submitted,

Date: December 4, 2001



Gregory K. Jones

EXPERIMENT AND DEVELOPMENT ORDER

Prepared By: J. Zheng
Requested By: J. Zheng
Date: 8/18/92
Industry: Meat
Customer:
Shipping:

Experimental Number: [REDACTED]
Charge Cost To: 490102-91611
Project No.: MP-800
Machines Involved In Cost:

Title: Five Layer Shrink Bag Modification - VLDPE

Objective: Using Exxon VLDPE to replace Dow ULDPE in five layer structure.

Instructions:

Materials:

Saran blend 3649-00
ULDPE: Dow 4201 RMS 11188
EVA-ULDPE Blend: 3652-00
VLDPE: Exxon SLP-0179
 Exxon SLP-9012
EVA: Exxon 97.06 RMS 11459

Five Layer Structure:

30 ga. 30 ga. 20 ga. 90 ga. 30 ga.
Variable 1 (control): 3652-00 / 4201 / 3649-00 / 11459 / 4201
Variable 2: 3652-00 / 4201 / 3649-00 / 11459 / SLP-0179
Variable 3: 3652-00 / 4201 / 3649-00 / 11459 / SLP-9012
Variable 4: 3652-00 / SLP-0179 / 3649-00 / 11459 / SLP-0179
Variable 5: 3652-00 / SLP-9012 / 3649-00 / 11459 / SLP-9012

PP - Extrusion: Produce 1,000 ft. of each variable (14" wide)

EB:

- Prepare 3 composite rolls
- EB treat two passes at total dose 4, 5.3 and 6 Mrad for three rolls

Estimated Cost: \$500.00

Approval: Roger L. Kaas

Date: 8/19/92

Assigned To: J. Zheng

Assisted By: D. Cowling

Distribution:

R. Germanprez
B. Steen
Library
L. Christenson
J. Eckstein

K. Peterson
R. Kaas
J. Zheng (2)
D. Cowling (2)

ALL STATE LEGAL

EXHIBIT

A

8-18-92

Title: Five layer shrink bag modification - VLDP

Objective: ① determine the 5-layer shrink bag performance using VLDP replacing ULDP.

② Eventually cost reduction
(down gauging)

③ Improve sealability and toughness

RESEARCH AND DEVELOPMENT SHEET

9-Blow

1. Project No. 2-11726-92

2. Objectives

3. Design

4. Materials

5. Procedure

6. Test Results

7. Conclusion

Title: Five layer Shrink Bag Modification - VLDP

using same VLDP to replace same ULDP - four layer

structure.

1. Materials

Surf. Seal 3649-00
ULDP 3652-00
EVA-ULDP 3652-00
VLDP 3652-00
EVA 3652-00
EVA 3652-00

2. Procedure

variables: 1. 3652-00/3652-00/3652-00/3652-00
variables (cont): 3652-00/3652-00/3652-00/3652-00

Variables 1.
1. 3652-00/3652-00/3652-00/3652-00
2. 3652-00/3652-00/3652-00/3652-00
3. 3652-00/3652-00/3652-00/3652-00
4. 3652-00/3652-00/3652-00/3652-00
5. 3652-00/3652-00/3652-00/3652-00

* G - Trial work at PPCO 9-17-92 The trial was successful

RESEARCH AND DEVELOPMENT SHEET

TO BE FILLED OUT ON COMPLETION OF JOB

1. Completion Date

2. Comments

3. Variables

4. Procedure

5. Conclusion

6. Comments

7. Variables

8. Procedure

9. Conclusion

10. Comments

11. Variables

12. Procedure

13. Conclusion

14. Comments

15. Variables

16. Procedure

17. Conclusion

18. Comments

19. Variables

20. Procedure

21. Conclusion

22. Comments

23. Variables

24. Procedure

25. Conclusion

26. Comments

27. Variables

28. Procedure

29. Conclusion

30. Comments

31. Variables

32. Procedure

33. Conclusion

34. Comments

35. Variables

36. Procedure

37. Conclusion

38. Comments

39. Variables

40. Procedure

41. Conclusion

42. Comments

43. Variables

44. Procedure

45. Conclusion

46. Comments

47. Variables

48. Procedure

49. Conclusion

50. Comments

51. Variables

52. Procedure

53. Conclusion

54. Comments

55. Variables

56. Procedure

57. Conclusion

58. Comments

59. Variables

60. Procedure

61. Conclusion

62. Comments

63. Variables

64. Procedure

65. Conclusion

66. Comments

67. Variables

68. Procedure

69. Conclusion

70. Comments

71. Variables

72. Procedure

73. Conclusion

74. Comments

75. Variables

76. Procedure

77. Conclusion

78. Comments

79. Variables

80. Procedure

81. Conclusion

82. Comments

83. Variables

84. Procedure

85. Conclusion

86. Comments

87. Variables

88. Procedure

89. Conclusion

90. Comments

91. Variables

92. Procedure

93. Conclusion

94. Comments

95. Variables

96. Procedure

97. Conclusion

98. Comments

99. Variables

100. Procedure

101. Conclusion

102. Comments

103. Variables

104. Procedure

105. Conclusion

106. Comments

107. Variables

108. Procedure

109. Conclusion

110. Comments

111. Variables

112. Procedure

113. Conclusion

114. Comments

115. Variables

116. Procedure

117. Conclusion

118. Comments

119. Variables

120. Procedure

121. Conclusion

122. Comments

123. Variables

124. Procedure

125. Conclusion

126. Comments

127. Variables

128. Procedure

129. Conclusion

130. Comments

131. Variables

132. Procedure

133. Conclusion

134. Comments

135. Variables

136. Procedure

137. Conclusion

138. Comments

139. Variables

140. Procedure

141. Conclusion

142. Comments

143. Variables

144. Procedure

145. Conclusion

146. Comments

147. Variables

148. Procedure

149. Conclusion

150. Comments

151. Variables

152. Procedure

153. Conclusion

154. Comments

155. Variables

156. Procedure

157. Conclusion

158. Comments

159. Variables

160. Procedure

161. Conclusion

162. Comments

163. Variables

164. Procedure

165. Conclusion

166. Comments

167. Variables

168. Procedure

169. Conclusion

170. Comments

171. Variables

172. Procedure

173. Conclusion

174. Comments

175. Variables

176. Procedure

177. Conclusion

178. Comments

179. Variables

180. Procedure

181. Conclusion

182. Comments

183. Variables

184. Procedure

185. Conclusion

186. Comments

187. Variables

188. Procedure

189. Conclusion

190. Comments

191. Variables

192. Procedure

193. Conclusion

194. Comments

195. Variables

196. Procedure

197. Conclusion

198. Comments

199. Variables

200. Procedure

201. Conclusion

202. Comments

203. Variables

204. Procedure

205. Conclusion

206. Comments

207. Variables

208. Procedure

209. Conclusion

210. Comments

211. Variables

212. Procedure

213. Conclusion

214. Comments

215. Variables

216. Procedure

217. Conclusion

218. Comments

219. Variables

220. Procedure

221. Conclusion

222. Comments

223. Variables

224. Procedure

225. Conclusion

226. Comments

227. Variables

228. Procedure

229. Conclusion

230. Comments

231. Variables

232. Procedure

233. Conclusion

234. Comments

235. Variables

236. Procedure

237. Conclusion

238. Comments

239. Variables

240. Procedure

241. Conclusion

242. Comments

243. Variables

244. Procedure

245. Conclusion

246. Comments

247. Variables

248. Procedure

249. Conclusion

250. Comments

251. Variables

252. Procedure

253. Conclusion

254. Comments

255. Variables

256. Procedure

257. Conclusion

258. Comments

259. Variables

260. Procedure

261. Conclusion

262. Comments

263. Variables

264. Procedure

265. Conclusion

266. Comments

267. Variables

268. Procedure

269. Conclusion

270. Comments

271. Variables

272. Procedure

273. Conclusion

274. Comments

275. Variables

276. Procedure

277. Conclusion

278. Comments

279. Variables

280. Procedure

281. Conclusion

282. Comments

283. Variables

284. Procedure

285. Conclusion

286. Comments

287. Variables

288. Procedure

289. Conclusion

290. Comments

291. Variables

292. Procedure

293. Conclusion

294. Comments

295. Variables

296. Procedure

297. Conclusion

298. Comments

299. Variables

300. Procedure

301. Conclusion

302. Comments

303. Variables

304. Procedure

305. Conclusion

306. Comments

307. Variables

308. Procedure

309. Conclusion

310. Comments

311. Variables

312. Procedure

313. Conclusion

314. Comments

315. Variables

316. Procedure

317. Conclusion

318. Comments

319. Variables

320. Procedure

321. Conclusion

322. Comments

323. Variables

324. Procedure

325. Conclusion

326. Comments

327. Variables

328. Procedure

329. Conclusion

330. Comments

331. Variables

332. Procedure

333. Conclusion

334. Comments

335. Variables

336. Procedure

337. Conclusion

338. Comments

339. Variables

340. Procedure

341. Conclusion

342. Comments

343. Variables

344. Procedure

345. Conclusion

346. Comments

347. Variables

348. Procedure

349. Conclusion

350. Comments

351. Variables

352. Procedure

353. Conclusion

354. Comments

355. Variables

356. Procedure

357. Conclusion

358. Comments

359. Variables

360. Procedure

361. Conclusion

362. Comments

363. Variables

364. Procedure

365. Conclusion

366. Comments

367. Variables

368. Procedure

369. Conclusion

370. Comments

371. Variables

372. Procedure

373. Conclusion

374. Comments

375. Variables

376. Procedure

377. Conclusion

378. Comments

379. Variables

380. Procedure

381. Conclusion

382. Comments

383. Variables

384. Procedure

385. Conclusion

386. Comments

387. Variables

388. Procedure

389. Conclusion

390. Comments

391. Variables

392. Procedure

393. Conclusion

394. Comments

395. Variables

396. Procedure

397. Conclusion

398. Comments

399. Variables

400. Procedure

401. Conclusion

402. Comments

403. Variables

404. Procedure

405. Conclusion

406. Comments

407. Variables

408. Procedure

409. Conclusion

410. Comments

411. Variables

412. Procedure

413. Conclusion

414. Comments

415. Variables

416. Procedure

417. Conclusion

418. Comments

419. Variables

420. Procedure

421. Conclusion

422. Comments

423. Variables

424. Procedure

425. Conclusion

426. Comments

427. Variables

428. Procedure

429. Conclusion

430. Comments

431. Variables

432. Procedure

433. Conclusion

434. Comments

435. Variables

436. Procedure

437. Conclusion

438. Comments

439. Variables

440. Procedure

441. Conclusion

442. Comments

443. Variables

444. Procedure

445. Conclusion

446. Comments

447. Variables

448. Procedure

449. Conclusion

450. Comments

451. Variables

452. Procedure

453. Conclusion

454. Comments

455. Variables

456. Procedure

457. Conclusion

458. Comments

459. Variables

460. Procedure

461. Conclusion

462. Comments

463. Variables

464. Procedure

465. Conclusion

466. Comments

467. Variables

468. Procedure

469. Conclusion

470. Comments

471. Variables

472. Procedure

473. Conclusion

474. Comments

475. Variables

476. Procedure

477. Conclusion

478. Comments

479. Variables

480. Procedure

481. Conclusion

482. Comments

483. Variables

484. Procedure

485. Conclusion

486. Comments

487. Variables

488. Procedure

489. Conclusion

490. Comments

491. Variables

492. Procedure

493. Conclusion

494. Comments

495. Variables

496. Procedure

497. Conclusion

498. Comments

499. Variables

500. Procedure

501. Conclusion

502. Comments

503. Variables

504. Procedure

505. Conclusion

506. Comments

507. Variables

508. Procedure

509. Conclusion

510. Comments

511. Variables

512. Procedure

513. Conclusion

514. Comments

515. Variables

516. Procedure

517. Conclusion

518. Comments

519. Variables

520. Procedure

521. Conclusion

522. Comments

523. Variables

524. Procedure

525. Conclusion

526. Comments

527. Variables

528. Procedure

529. Conclusion

530. Comments

531. Variables

532. Procedure

533. Conclusion

534. Comments

535. Variables

536. Procedure

537. Conclusion

538. Comments

539. Variables

540. Procedure

541. Conclusion

542. Comments

543. Variables

544. Procedure

545. Conclusion

546. Comments

547. Variables

548. Procedure

549. Conclusion

550. Comments

551. Variables

552. Procedure

553. Conclusion

554. Comments

555. Variables

556. Procedure

557. Conclusion

558. Comments

559. Variables

560. Procedure

561. Conclusion

562. Comments

563. Variables

564. Procedure

565. Conclusion

566. Comments

567. Variables

568. Procedure

569. Conclusion

570. Comments

571. Variables

572. Procedure

573. Conclusion

574. Comments

575. Variables

576. Procedure

577. Conclusion

578. Comments

579. Variables

580. Procedure

581. Conclusion

582. Comments

583. Variables

584. Procedure

585. Conclusion

586. Comments

587. Variables

588. Procedure

589. Conclusion

590. Comments

591. Variables

592. Procedure

593. Conclusion

594. Comments

595. Variables

596. Procedure

597. Conclusion

598. Comments

599. Variables

600. Procedure

601. Conclusion

602. Comments

603. Variables

604. Procedure

605. Conclusion

606. Comments

607. Variables

608. Procedure

609. Conclusion

610. Comments

611. Variables

612. Procedure

613. Conclusion

614. Comments

615. Variables

616. Procedure

617. Conclusion

618. Comments

619. Variables

620. Procedure

621. Conclusion

622. Comments

623. Variables

624. Procedure

625. Conclusion

626. Comments

627. Variables

628. Procedure

629. Conclusion

630. Comments

631. Variables

632. Procedure

633. Conclusion

634. Comments

635. Variables

636. Procedure

637. Conclusion

638. Comments

639. Variables

640. Procedure

641. Conclusion

642. Comments

643. Variables

644. Procedure

645. Conclusion

646. Comments

647. Variables

648. Procedure

649. Conclusion

650. Comments

651. Variables

652. Procedure

653. Conclusion

654. Comments

655. Variables

656. Procedure

657. Conclusion

658. Comments

659. Variables

660. Procedure

661. Conclusion

662. Comments

663. Variables

664. Procedure

665. Conclusion

666. Comments

667. Variables

668. Procedure

669. Conclusion

670. Comments

671. Variables

672. Procedure

673. Conclusion

674. Comments

675. Variables

676. Procedure

677. Conclusion

678. Comments

679. Variables

680. Procedure

681. Conclusion

682. Comments

683. Variables

684. Procedure

685. Conclusion</



ExxonMobil Chemical Categories

EXXPOL™ [Home](#) | [New Chemical Catalysts](#) | [How They Work](#) | [Key Features](#)
[Product Properties](#) | [Products Made with EXXPOL](#)

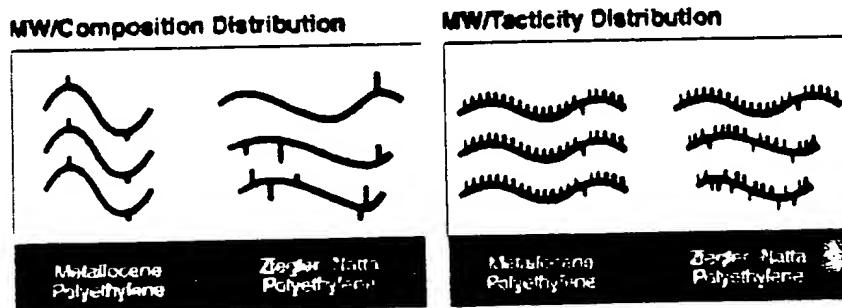
How EXXPOL Metallocene Catalysts Work

Catalysts can be compared to tiny hands or "templates" that initiate and guide the assembly of a polymer.

The template "grabs" individual olefin molecules and links them together to form a polymer chain.

Prior to metallocenes, catalysts were chemical blends made up of slightly different molecules that each assembled the polymer chain in different ways. With this variety of templates, it was difficult to control the structure of the resulting polymer molecules, causing those molecules to have slightly different and inconsistent properties.

EXXPOL metallocene catalysts each consist of identical molecules, or templates, which behave in the same way, so each polymer chain produced is uniform, resulting in polymer consistency.



EXXPOL metallocene catalysts offer "single-site" catalysis:

- a single type of catalytic site rather than multiple types of sites
- producing a single type of polymer chain.

What's more, scientists and engineers can change the structure of the catalyst molecule and the environment around its catalytic site to build different polymeric structures with specific properties, such as increased toughness or better clarity.

With the ability to produce extremely uniform polymers and the flexibility to design those polymers to provide the desired attributes, metallocene catalysts offer new opportunities to create polyolefins that precisely meet market needs.

EXXPOL

[Home](#) | [New Chemical Catalysts](#) | [How They Work](#) | [Key Features](#) | [Product Properties](#) |

Licensing
Technology

- Technology Overview
- Polymers Technology Licensing
- Exxon Technology Licensing
- Aromatics and Olefins Licensing

ALL STATE LEGAL

EXHIBIT

C

Form No. 3096
Rev. 8-53

EXPERIMENT AND DEVELOPMENT ORDER

Prepared By J. Zheng
Requested By _____
Date 8-19-92
Industry _____
Customer _____
Shipping Instructions:Experimental Number E-15474-92
Sales Order No. 490102 - 41611
Charge Cost To LR-200
Dept., Problem, or Devol. No. LR-200
Machines Involved in Cost: PP - Rheology Extruder
ESI - EBTitle EB Crosslinking of VLDPE
Objective: Indicate purpose of experiments, title or description of product desired, and end use requirements.To determine the EB crosslinking of future and
hexene based Exxon VLDPE.INSTRUCTIONS: List materials to be used, Plants involved with detailed manufacturing instructions and
disposition of finished goods and excess raw materials.

Materials:

Exxon SLP - 0.79
.. SLP - 9012

25 lb

25 lb

Dow Atene 4201

25 lb

Cost: \$75.00

EB (ESI 250 Ku UNIT) \$250.75/hr

Cost: \$375.00

Total Cost: \$450.00

PP - Rheology Extruder

Produce 30 ft. 7 mil thick sheet of
each following variables.

Variable 1 SLP - 0.79

Density
0.910

2. SLP - 9012

0.911

3. Atene 4201 0.912

Person's Instrumentation: All Labor and Materials Used on This Experiment must be Reported on Your Labor, Production and Material Reports under the Above "E" No.

Estimated Cost: \$450.00
Assigned To: _____

Approval

Log L. LaoDate 8-19-92

EXPERIMENT AND DEVELOPMENT ORDER

Prepared By: J. Zheng
Requested By: J. Zheng
Date: 12/11/92
Industry:
Customer:
Shipping:

Experimental Number: [REDACTED]
Charg Cost To: 490102-91611
Project No.: LR-200
Machines Involved In Cost:
PP - Saran
ESI or PPDI - EB

Title: Exxon Exact Polymer Evaluation - Shrink Bag Application

Objective: To determine the processability, the EB crosslinking and the performance properties of exact polymers in three layer shrink bag application.

Instructions:

Materials

Saran blend
EVA/ULDPE blend
Dow Attane 4201
Exxon Exact 3025 ($T_m = 103^\circ\text{C}$)
Exxon Exact 3028 ($T_m = 92^\circ\text{C}$)

Total Cost = \$500.00

PP - Saran:

Produce three layer structure films, 2.3 mil thick and 14-1/2" wide with following variables.

Variable 1: (control) EVA/UL//Saran//EVA/UL-3651

Variable 2: EVA/UL//Saran//4201

Estimated Cost: \$500.00

Approval: Roger L. Kaas

Date: 12/11/92

Assigned To: J. Zheng

Assisted By: J. Holcomb

Distribution:

R. Germanprez

B. Steen

[REDACTED]

L. Christenson

K. Peterson

J. Eckstein

R. Kaas

J. Britt PFFF 06H

S. Godsil (7) PPDI

J. Holcomb (2)

J. Zheng (2)

-cont-

Variable 3: EVA/UL//Saran//3025

Variable 4: EVA/UL//Saran//3028

Variable 5: 4201/Saran//4201

Variable 6: 3025//Saran//3025

Variable 7: 3028//Saran//3028

* DR = 3.5 BUP = 3.8

EB - ESI OR PPDI

TBD

PC 251730

EXPERIMENT AND DEVELOPMENT ORDER

Prepared By: J. Zheng
Requested By: K. Lind
Date: 3/2/93
Industry: Meat
Customer: Not to ship
Shipping: TBA

Experimental Number [REDACTED]
Charg Cost To: 0-042-1284 763-02
Project No.: LR-200
Machines Involved In Cost:
PPDI - Saran Extrusion 3-layer
- EB
- Bag Machine

Title: 3-layer Saran Sealability and Toughness

Objective: The purpose of this E-number is to evaluate Dow Insite polymer and modify the current 80/10/10 formulation to improve the sealability and toughness of 3-layer shrink bags.

Instructions:

Materials

Saran Blend: 3653-00

EVA, ULDPE Blend: 3652-00

Exxon LD 712.06 (10% VA, 0.3 MI)

Exxon LD 318-92 (9.0% VA, 2.2 MI)

Dow XUR-1567-58462A37 (1.0 MI, density = 0.908)

Blending

Blend 300 lbs. of inner Dow PE, EVA blends for Variables 3, 4, 5 and 6 at PTNW and ship to PPDI.

PPDI - Saran (3-layer Dial)

Produce two 4M ft. roll of each of the following structures at 13" width at 230 ga. per Spec. Z-2655.

Estimated Cost: \$1,500.00

Approval: Roger L. Kaas

Date: 3/2/93

Assigned To: J. Zheng

Assisted By:

Distribution:

R. Germonprez
B. Steen
Library
L. Christenson
K. Peterson
S. Godsil (7) PPDI

R. Kaas
J. Britt YPPP 06H
K. Lind [REDACTED]
[REDACTED] 125
J. Eckstein

PPDI - Saran -cont.-

<u>Variable</u>	<u>Outer</u>	<u>Core</u>	<u>Inner</u>
1	3652	3653	3652
2	3652	3653	Dow XUR-A37
3	3652	3653	90/10 A37/712.06
4	3652	3653	80/20 A37/712.06
5	3652	3653	50/50 A37/712.06
6	3652	3653	80/10/10 712.06/A37/318.92
Total Gauge	230	100-130 ga.	20 ga. 80-110 ga.

PPDI - EB Line

1. EB 1 roll each variable to 4.0 Mrad per Spec. M-808.
2. EB 1 roll each variable to 5.3 Mrad per Spec. M-811.

PPDI - Bag Machine

Produce 500 13 X 26" bags each variable per Spec. B-1233
(12 total cartons)

Testing

PPDI per Spec. Z-2655, M-808, M-811 and B-1233
PTNW per J. Zheng